



[4910-13-P]

## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2012-0038; Directorate Identifier 2011-NM-209-AD]**

**RIN 2120-AA64**

**Airworthiness Directives; Airbus Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** We propose to adopt a new airworthiness directive (AD) for all Airbus Model A300 B4-600 series airplanes and Model A310-203, -204, -221, and -222 airplanes. This proposed AD was prompted by a report of a capacitive density condensator (cadensicon) coil overheating during testing. This proposed AD would require an inspection to determine if a certain fuel quantity indication computer (FQIC) is installed, replacement of identified FQICs, and modification of the associated wiring. We are proposing this AD to detect and correct potential overheating of the cadensicon coil, which could create an ignition source inside a fuel tank, which, in combination with flammable fuel vapors, could result in a fuel tank explosion and consequent loss of the airplane.

**DATES:** We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the

instructions for submitting comments.

- Fax: (202) 493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

- Hand Delivery: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed AD, contact Airbus SAS – EAW (Airworthiness Office), 1 Rond Point Maurice Bellonte, 31707 Blagnac Cedex, France; telephone +33 5 61 93 36 96; fax +33 5 61 93 44 51; e-mail [account.airworth-eas@airbus.com](mailto:account.airworth-eas@airbus.com); Internet <http://www.airbus.com>. You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone (800) 647-5527) is in the ADDRESSES

section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Dan Rodina, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue SW., Renton, Washington 98057-3356; telephone (425) 227-2125; fax (425) 227-1149.

**SUPPLEMENTARY INFORMATION:**

**Comments Invited**

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2012-0038; Directorate Identifier 2011-NM-209-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD based on those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

**Discussion**

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Community, has issued EASA Airworthiness Directive 2011-0186, dated September 23, 2011 (referred to after this as “the MCAI”), to

correct an unsafe condition for the specified products. The MCAI states:

In view to address the scope of Special Federal Aviation Regulation 88 (SFAR 88) (66 FR 23086, May 7, 2001) and the equivalent JAA Internal Policy INT/POL/25/12, a safety analysis of Fuel Quantity Indication Computers (FQIC) fitted to Wide Body aeroplanes has been performed.

Detailed analysis has shown that on early standard FQIC, Type 1, there is an insufficient gap on the printed circuit board between an 115V [volt] supply and a direct path to the Capacitive Density Condensator (Cadensicon).

During tests that were carried out applying 115V to the Cadensicon coil, measured temperature levels were in excess of the acceptable level of 200°C. This potential overheating of the Cadensicon coil could be a possible ignition point within the fuel tank.

This condition, if left uncorrected, could create an ignition source in the tank vapour space, possibly resulting in a wing fuel tank explosion and consequent loss of the aeroplane.

For the reasons explained above, this [EASA] AD requires the replacement of all Type 1 FQICs with Type 2 FQICs.

You may obtain further information by examining the MCAI in the AD docket.

The FAA has examined the underlying safety issues involved in fuel tank explosions on several large transport airplanes, including the adequacy of existing regulations, the service history of airplanes subject to those regulations, and existing maintenance practices for fuel tank systems. As a result of those findings, we issued a regulation titled “Transport Airplane Fuel Tank System Design Review, Flammability Reduction and Maintenance and Inspection Requirements” (66 FR 23086, May 7, 2001). In addition to new airworthiness standards for transport airplanes and new maintenance

requirements, this rule included Special Federal Aviation Regulation No. 88 (“SFAR 88,” Amendment 21-78, and subsequent Amendments 21-82 and 21-83).

Among other actions, SFAR 88 (66 FR 23086, May 7, 2001) requires certain type design (i.e., type certificate (TC) and supplemental type certificate (STC)) holders to substantiate that their fuel tank systems can prevent ignition sources in the fuel tanks. This requirement applies to type design holders for large turbine-powered transport airplanes and for subsequent modifications to those airplanes. It requires them to perform design reviews and to develop design changes and maintenance procedures if their designs do not meet the new fuel tank safety standards. As explained in the preamble to the rule, we intended to adopt airworthiness directives to mandate any changes found necessary to address unsafe conditions identified as a result of these reviews.

In evaluating these design reviews, we have established four criteria intended to define the unsafe conditions associated with fuel tank systems that require corrective actions. The percentage of operating time during which fuel tanks are exposed to flammable conditions is one of these criteria. The other three criteria address the failure types under evaluation: single failures, single failures in combination with a latent condition(s), and in-service failure experience. For all four criteria, the evaluations included consideration of previous actions taken that may mitigate the need for further action.

The Joint Aviation Authorities (JAA) has issued a regulation that is similar to SFAR 88 (66 FR 23086, May 7, 2001). (The JAA is an associated body of the European Civil Aviation Conference (ECAC) representing the civil aviation regulatory authorities

of a number of European States who have agreed to co-operate in developing and implementing common safety regulatory standards and procedures.) Under this regulation, the JAA stated that all members of the ECAC that hold type certificates for transport category airplanes are required to conduct a design review against explosion risks.

We have determined that the actions identified in this AD are necessary to reduce the potential of ignition sources inside fuel tanks, which, in combination with flammable fuel vapors, could result in fuel tank explosions and consequent loss of the airplane.

#### **Relevant Service Information**

Airbus has issued Mandatory Service Bulletins A300-28-6024, Revision 02, dated January 19, 2011; and A310-28-2039, Revision 01, dated January 19, 2011. The actions described in this service information are intended to correct the unsafe condition identified in the MCAI.

#### **FAA's Determination and Requirements of This Proposed AD**

This product has been approved by the aviation authority of another country, and is approved for operation in the United States. Pursuant to our bilateral agreement with the State of Design Authority, we have been notified of the unsafe condition described in the MCAI and service information referenced above. We are proposing this AD because we evaluated all pertinent information and determined an unsafe condition exists and is likely to exist or develop on other products of the same type design.

#### **Costs of Compliance**

Based on the service information, we estimate that this proposed AD would affect

about 53 products of U.S. registry. We also estimate that it would take about 6 work-hours per product to comply with the basic requirements of this proposed AD. The average labor rate is \$85 per work-hour. Required parts would cost about \$200 per product. Where the service information lists required parts costs that are covered under warranty, we have assumed that there will be no charge for these parts. As we do not control warranty coverage for affected parties, some parties may incur costs higher than estimated here. Based on these figures, we estimate the cost of the proposed AD on U.S. operators to be \$37,630, or \$710 per product.

#### **Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. "Subtitle VII: Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in "Subtitle VII, Part A, Subpart III, Section 44701: General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

## **Regulatory Findings**

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

1. Is not a “significant regulatory action” under Executive Order 12866;
2. Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and
3. Will not affect intrastate aviation in Alaska; and
4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a regulatory evaluation of the estimated costs to comply with this proposed AD and placed it in the AD docket.

## **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

## **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

## **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:



Authority: 49 U.S.C. 106(g), 40113, 44701.

**§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new AD:

**Airbus:** Docket No. FAA-2012-0038; Directorate Identifier 2011-NM-209-AD.

**(a) Comments Due Date**

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to Airbus Model A300 B4-601, B4-603, B4-620, and B4-622 airplanes, and Model A310-203, -204, -221, and -222 airplanes; certificated in any category; all manufacturer serial numbers.

**(d) Subject**

Air Transport Association (ATA) of America Code 28: Fuel.

**(e) Reason**

This AD was prompted by a report of a capacitive density condensator (cadensicon) coil overheating during testing. We are issuing this AD to detect and correct potential overheating of the cadensicon coil, which could create an ignition source inside a fuel tank, which, in combination with flammable fuel vapors, could result in a fuel tank explosion and consequent loss of the airplane.

**(f) Compliance**

You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

**(g) Actions**

Within 30 months after the effective date of this AD, inspect to determine whether any fuel quantity indication computer (FQIC) Type 1, having part number (P/N) SIC5054 or P/N SIC5051 (as applicable to the airplane model), is installed, in accordance with the Accomplishment Instructions of Airbus Mandatory Service Bulletin A300-28-6024, Revision 02, dated January 19, 2011; or Airbus Mandatory Service Bulletin A310-28-2039, Revision 01, dated January 19, 2011; as applicable. A review of airplane maintenance records is acceptable in lieu of this inspection if the part number of the FQIC can be conclusively determined from that review. If any FQIC Type 1 having P/N SIC5054 or P/N SIC5051 is installed, within 30 months after the effective date of this AD, replace the FQIC Type 1 with a FQIC Type 2 having P/N SIC5055, P/N SIC5076, P/N SIC5082, or P/N SIC5083 (as applicable to Model A310 series airplanes) or with a FQIC Type 2 having P/N SIC5077 (as applicable to Model A300 B4-600 series airplanes), and modify the associated wiring, in accordance with the Accomplishment Instructions of Airbus Mandatory Service Bulletin A300-28-6024, Revision 02, dated January 19, 2011; or Airbus Mandatory Service Bulletin A310-28-2039, Revision 01, dated January 19, 2011; as applicable.

**(h) Parts Installation**

As of the effective date of this AD, no person may install any FQIC Type 1 having P/N SIC5054 or P/N SIC5051, on any airplane.

**(i) Other FAA AD Provisions**

The following provisions also apply to this AD:

**(1) Alternative Methods of Compliance (AMOCs):** The Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the International Branch, send it to ATTN: Dan Rodina, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue SW., Renton, Washington 98057-3356; telephone (425) 227-2125; fax (425) 227-1149. Information may be e-mailed to: [9-ANM-116-AMOC-REQUESTS@faa.gov](mailto:9-ANM-116-AMOC-REQUESTS@faa.gov). Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office. The AMOC approval letter must specifically reference this AD.

**(2) Airworthy Product:** For any requirement in this AD to obtain corrective actions from a manufacturer or other source, use these actions if they are FAA-approved. Corrective actions are considered FAA-approved if they are approved by the State of Design Authority (or their delegated agent). You are required to assure the product is airworthy before it is returned to service.

**(j) Related Information**

Refer to MCAI European Aviation Safety Agency Airworthiness Directive 2011-0186, dated September 23, 2011, and the service information specified in paragraphs (j)(1) and (j)(2) of this AD, for related information.

(1) Airbus Mandatory Service Bulletin A300-28-6024, Revision 02, dated January 19, 2011.

(2) Airbus Mandatory Service Bulletin A310-28-2039, Revision 01, dated January 19, 2011.

Issued in Renton, Washington, on January 12, 2012.

Michael Kaszycki,  
Acting Manager,  
Transport Airplane Directorate,  
Aircraft Certification Service.

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